

Claims:

5 *process*
10 *pos*
15 *speciat*
20 *SB*
25 *Q3*

1. A process for the simultaneous production of xylitol and ethanol from a hydrolyzed lignocellulose-containing material, characterized in that the starting material is fermented with a yeast strain which is capable of converting free xylose to xylitol and the free hexoses present to ethanol and yeast, the ethanol produced is recovered and xylitol is chromatographically separated from the remaining xylitol solution.
2. A process according to Claim 1, characterized in that the starting material is extracted, the extracted solution is fermented to convert xylose into xylitol and a chromatographic separation and crystallization are carried out on the xylitol solution and a final hydrolysis is carried out on the extracted mass, said mass is fermented and the ethanol produced is recovered.
3. A process according to Claim 1, characterized in that a xylane-containing lignocellulose, such as birch or grain hulls, is used as a starting material.
4. A process according to Claim 1, characterized in that sulphite waste liquor is used as a starting material.
5. A process according to Claim 1, characterized in that pure xylitol is crystallized from the xylitol-rich fraction obtained in the chromatography step.
6. A process according to Claim 1, characterized in that the yeast cells are removed prior or subsequent to the distillation.
7. A process according to Claim 1, characterized in that the yeast strain is of the

genus Candida or Debaryomyces.

8. A process according to Claim 1 or 7, characterized in that the yeast is a Candida tropicalis species and is preferably Candida tropicalis ATCC 9968.

9. A process according to Claim 1, characterized in that the yeast is a Debaryomyces hansenii species.

10. A process according to Claim 1, characterized in that the ethanol is recovered by distillation.

11. A process according to Claim 1, characterized in that the hydrolysis is carried out by steam explosion and enzymatic final hydrolysis.

12. A process according to Claim 1, characterized in that the chromatographic separation is carried out by using a strong cation-exchanging resin as the stationary phase!!

13. A process according to Claim 1, characterized in that the fermentation is carried out at a pH of about 4 - 7, preferably about 5.7, and at a temperature of about 10 - 45°C, preferably about 25 - 35°C.

14. A process according to Claim 2, characterized in that the final hydrolysis of the extracted mass is carried out enzymatically.

Add E6

Add A4

Add B1

Add C1

Add F1